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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,220	12/21/2001	Thomas W. Stone	6536-109	1762
26486	7590	03/02/2004	EXAMINER	
PERKINS, SMITH & COHEN LLP ONE BEACON STREET 30TH FLOOR BOSTON, MA 02108			LE, QUE TAN	
			ART UNIT	PAPER NUMBER
			2878	

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/027,220	STONE, THOMAS W.	
	Examiner	Art Unit	
	Que T. Le	2878	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

The disclosure is objected to because of the following informalities: In claims 1, 7 and 13, on lines 4-5, 4-5 and 7-8, respectively, "one said plane" apparently should be changed to "one of said planes".

Appropriate correction is required.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1, 4-7, 10-13 and 16-18 are rejected under 35 U.S.C. 102(a) as being anticipated by Stone 5,892,620.

Stone discloses an optical shuffle system comprising: an imaging system (2) having a first component (30) and a second component (10) spaced apart from one other and including and/or defining an input plane and an output plane; a grating tent or a diffractive prism or means, with at least one surface, affixed to the imaging system proximate to one of the planes for rearranging spatial components of an object located proximate to the input plane into a rearranged image within the output plane.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 4-7, 10-13 and 16-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Weverka 5,165,104 or Brenner et al 4,931,959.

Weverka discloses an optical connection system comprising: an imaging device having a first component (23) and a second component (31), spaced apart from one another, and defining an input plane and an output plane; and lenses (39, 43) and/or

Bragg cell (41) as means, with at least one surface, affixed to the imaging device proximate to one of the planes for rearranging spatial components of an object located proximate the input plane into a rearranged image within the output plane.

Brenner et al disclose an optical shuffle system comprising: an imaging device having a first component or input plane (401) spaced apart from a second component or output plane (435); and deflecting prisms (405, 410, 420, 425), Fourier transform lenses (415, 430 as means, with at least one surface, affixed to the imaging device proximate to one of the planes for rearranging spatial components of an object located proximate the input plane into a rearranged image within the output plane.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 3, 8, 9, 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weverka 5,165,104 or Brenner et al 4,931,959.

Per the discussion above, although Weverka and/or Brenner et al lack a clear inclusion of a gradient index rod lens and/or an optical data pipe in the imaging device, the use of a gradient index rod lens and/or an optical data pipe for providing spatial transmission lines in an optical interconnection network would have been known and available in the optics art. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Weverka and/or Brenner et al by utilizing the gradient index rod lens and/or an optical data pipe in order to provide a different form of

spatial components transmission lines for the system without altering the basic performances of the system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Que T. Le whose telephone number is (571) 272-2438.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Que T Le
Primary Examiner
Art Unit 2878